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ABSTRACT

Drawing from reports of rural graduates' insights, the study examined whether graduates of small school districts serving rural areas systematically differ from graduates of more metropolitan school districts. Primary data were collected during a four-year longitudinal study of students attending small schools serving rural areas (Project Rural). Survey questionnaires were mailed to 1,028 high school graduates in 9 rural school districts one year after they graduated. Only 289 of the 1974 graduates responded. Selected data from a national probability sample of 16,000 cases was used to assess the representativeness of the smaller sample, and to compare the differences in attitudes between urban, suburban, small town, and rural senior high school students. Information from a questionnaire on the activities, ideas, and feelings of the students during their senior year was analyzed to determine which of the items most clearly predicted what the pupils would be doing a year after graduation. Among the major conclusions were: few rural graduates one year after graduation were leaving their home communities to seek jobs elsewhere; graduates usually left to continue their education; patterns of postgraduate activities were very different across school districts and not easily explained by community demographic differences; when district variations were averaged out, rural, small town, suburban and urban graduates were "surprisingly similar" in terms of values, attitudes and in their evaluations of the schools. (NQ)

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One Year Out: Reports of Rural High School Graduates

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FOREWORD

There has been a dearth of longitudinal research related to rural schools. One of the few recent opportunities for research of this nature has been occasioned by the Experimental Schools Program for Small Schools Serving Rural Areas which was funded by the National Institute of Education and is being studied by Abt Associates Inc. through a contract with the Institute. "One Year Out: Reports of Rural High School Graduates" is one of the early reports to come from this project. This report and those to follow are eagerly awaited by the rural education community.

The ERIC Clearinghouse on Rural Education and Small Schools (ERIC/CRESS) is proud of the opportunity to cooperate with Abt Associates and the National Institute of Education in the dissemination of this report of the Experimental Schools Program to the rural education community.

Everett D. Edington
Director
ERIC/CRESS

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Introduction

For Americans, high school graduation is a major milestone. The value of their elementary and secondary education is tested during the next year as graduates seek employment or further education and training. Reports from graduates during this critical year should reveal much about their talents, preparation, and options. It has frequently been presumed that graduates of small school districts serving rural areas systematically differ from graduates of more metropolitan school districts with respect to all three: talents, preparation, and options. While we will examine this assumption, our primary objective is to draw from the reports of rural graduates insights that will be useful to rural educators concerned with the prospects for their graduates.

We find that several commonly held views of graduates from small schools serving rural areas are not sustained by our data. For example, our sample of graduates generally leave their communities to further their education -- not to seek jobs. Another example is that standard community demographic data do not explain the quite dramatic differences between school districts in postgraduate activities that we observe. Finally, there are no dramatic differences between rural and urban graduates in terms of a whole series of attitudes. There is some guidance in these findings for rural educators concerned with their graduates' prospects. They suggest that modifying aspirations, career awareness, and/or grades may produce changes in postgraduate activities. Education practices that increase participation in goal-oriented activities and regulate the openness of classroom environments may also produce changes in postgraduate activities.

The primary data analyzed in this report were collected by Abt Associates in the course of conducting a large four-year longitudinal study of students attending small schools serving rural areas (Project Rural). We analyze here only the responses to survey questionnaires mailed to 1,028 high school graduates in nine rural school districts one year after they left high school. The response rate to the questionnaires, only 28%, resulted in a relatively small sample (N=289). (Data from a tenth school district with an exceptionally low response rate have not been included.) Because we cannot be assured that the respondents in our sample are representative of the

entire senior class of 1974 in the nine districts,[1] we also present selected data from a national probability sample of 16,000 cases which enable us to assess the representativeness of our much smaller sample. The availability of these national data also allows us to discuss the size and importance of differences in attitudes between urban, suburban, small town, and rural senior high school students. The findings from our analysis of the smaller sample of 289 graduates also deserve special attention in light of the insights they afford on probable consequences of specific educational practices.

We begin this report with a simple description of what the Project Rural graduates were doing twelve months after high school and where they were doing it. We summarize this description by dividing the graduates into five distinct groups. In a second section we use these groups to examine differences in postgraduate activities across the nine school districts. We refer both to community demographic and economic characteristics and to teacher perceptions of pupils and schools that might explain the differences in postgraduate activities observed. The third section compares data from Project Rural with data from the national probability sample. In the final section we look at the extensive behavioral and attitudinal information obtained from the Project Rural sample of graduates during their senior year to discover which attributes best predict postgraduate activities.

The nine school districts from which the Project Rural sample is drawn have been participating for several years in an innovative educational program called the Experimental Schools (ES) Program funded by the National Institute of Education (NIE). As part of its participation in the Experimental Schools Program, each district went through a phase of needs assessment followed by a period of intensive program planning before implementation of programs designed to reach their students was undertaken. In 1973-74 when

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[1] We have looked at the differences between respondents and non-respondents to the graduate survey in terms of their attitudes and activities as high school seniors. The graduate survey respondents tend to have slightly higher educational aspirations and occupational plans than do non-respondents. Respondents also tend to be slightly more involved in school related activities and express a slightly greater degree of satisfaction with different aspects of their school's program than non-respondents. This suggests that the opinions and activities of disgruntled graduates are not as well represented here as are those of their more satisfied classmates.

the sample of graduates discussed in this report was still in high school these programs, for the most part, had not yet been implemented.

A common theme in the program plans produced was the design of innovations that would better prepare graduates for life after high school. Rural educators find this job difficult. They must prepare some students for leaving their communities to study or work while equipping others to stay in the community and work. Far and away the solutions to these problems most commonly proposed by the districts consisted of compensatory education programs, improved counseling, and career education programs. Of these nine school districts, seven made plans for implementing one type or another of career education component. Such an emphasis on career awareness, as distinct from vocational education, indicates that these districts believe their students do not know enough about occupational and educational options, as well as the qualifications these require, both in their own communities and in other locations. (True or not, such a belief has certainly been part of the "common wisdom" of rural schooling studies.) One of our findings gives us reason to expect career education programs will later be shown to enhance students' postgraduate educational and occupational attainment.

Description of the Respondents

Graduates' responses to six questions in our survey questionnaire provide the following information on what they were doing and where they were one year after graduation:

(1) type of post-secondary educational institution attended

(2) field of study

(3) number of hours worked in an average week (here summarized as less than or more than 40 hours)

(4) earnings per week before deductions

(5) distance of current residence from high school

(6) size of current community

Table 1 shows that almost half (48%) of our respondents are continuing their education, with most (28%) attending four-year colleges or universities. Vocational and technical two-year colleges draw the smallest proportion of students (7%). The pattern favoring an academic orientation is repeated in the selection of fields of study; whatever type of institution graduates attend, 71% select academic over vocational fields of concentration (Table 2).

Many of those who are in school are also working part- or full-time. If we include in our count those graduates who have held a job since graduation but may not currently be employed, fully 85% of the respondents have held jobs (Table 3).[2] Only 52% of our sample is gainfully employed either part- or full-time. Their earnings are neither high nor low; those working full-time make an average of $133 per week, or about $3.30 per hour.

About half of our respondents have moved; but 17% have moved less than 50 miles away and are still in relatively small communities (population less than 50,000); another 17% have moved more than 50 miles but again to small cities or towns (Table 5). Seventeen percent have moved more than 50 miles and to larger communities (population more than 50,000). Fully 50% have not left their home community one year after graduation. This pattern is not dramatically different for women than for men though more women than men have remained in their home communities.

Using the descriptors just discussed we attempted to cross-classify our sample of graduates into discrete groups. We experimented with several different statistical techniques (i.e., different methods of cluster analysis) but found that a simple examination of the cross-tabulations produced more internally homogeneous and distinct groups. We were able to classify 245 individuals into the following five groups: unemployed, working, two-year college students, local four-year college students and distant four-year college students (Table 6). Some of the remaining 44 respondents fell into additional groups with few graduates. Information was missing for the rest. To develop this classification it was necessary to drop three descriptors--earnings, academic or vocational field of study, and size of community moved to--in order to obtain groups large enough for analysis of district differences in group profiles. Results of this district differences analyses are reported in the following section.

Before turning to that analysis, however, it is worth noting that in our sample moving seems to be highly correlated with continuing education. For instance, we know of only fourteen graduates who moved more than 50 miles and are not in school. Table 6 shows that most of the graduates who go more than 50 miles from home do so to pursue their education, although they may be working. This also suggests that those who do not continue their education are more likely to live close to home.

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[2] Most (77%) are working (or have worked), for private companies; 18% are government employees; 4% work in a family business or farm; and 1% are self-employed.

TABLE 1

Graduate Survey Respondents Attending Various Types of Post-Secondary Education Institutions by Sex

Type of Institution		Sex		Totals	
		Male	Female	Number	Percent
Vocational, trade, technical two-year programs		10	9	19	7%
Two-year junior colleges		16	21	37	13%
Four-year colleges		40	41	81	28%
Other or unknown		8	6	14	5%
Did not attend		48	85	133	47%
Totals	Number	122	162	284*	--
	Percent	43%	57%	--	100%

*Missing Cases = 5

TABLE 2

Graduate Survey Respondents Pursuing Various Courses of Study

Course of Study	Number of Cases	Percent
ACADEMIC		
Biological Sciences	9	7%
Business	17	12
Education	16	12
Engineering	7	5
Humanities and Fine Arts	16	12
Physical Sciences	6	4
Social Sciences	7	5
Other Academic	16	12
Academic but Undecided	4	3
Sub Total	98	71
VOCATIONAL		
Office and Clerical	14	10%
Computer Technology	3	2
Mechanical and Engineering	13	9
Health Services	8	6
Public Services	3	2
Sub Total	41	29
Grand Total	139*	100%

*Missing Cases = 17; Did Not Attend = 133

TABLE 3

Number of Graduate Survey Respondents by Employment Category

Type of Job Held		Sex		Totals	
		Male	Female	Number	Percent
Part-time work		4	24	28	10%
Full-time work		60	52	112	40%
Current job unknown		1	5	6	2%
Not currently employed		41	51	92	33%
Never held job		11	29	40	15%
Totals	Number	117	161	278*	
	Percent	42%	58%		100%

*Missing Cases = 11

TABLE 4

Average Weekly Earnings by Employment Reported by Graduate Survey Respondents

Type of Job Held	Average Weekly Earnings	
	< 40 hours n =	≥ 40 hours n =
Not currently employed	$44 (28)	$118 (58)
Part-time work	$65 (26)	NA
Full-time work	NA	$133 (103)*

*Missing Cases = 34; Never Held Job = 40
NA = Not Applicable

TABLE 5

Current Community of Graduate Survey Respondents by Sex

Current Community	Sex		Totals	
	Male	Female	Number	Percent
Stayed in home community	50	87	137	50%
Moved < 50 miles to a community < 50,000 pop.	20	26	46	17%
Moved > 50 miles to a community < 50,000 pop.	28	17	45	16%
Moved > 50 miles to a community > 50,000 pop.	19	26	45	17%
Totals	117	156	273*	100%

*Missing Cases = 16

TABLE 6

Number and Percent of Graduate Survey Respondents in Five Groups of Postgraduate Activities

Postgraduate Activity	Number	Percent
Unemployed Living within fifty miles of their high school. Unemployed at time of survey (including those who never worked). No further education.	42	17%
Working Living within fifty miles of their high school and working at part or full time job (not continuing their education in any form).	67	27%
Two-Year College Students Living anywhere and continuing their education in business, trade or vocational school or in junior colleges. (May also be working.)	56	23%
Local Four-Year College Students Living within fifty miles of their high school and attending four-year college. (May also be working.)	30	12%
Distant Four-Year College Students Living more than fifty miles from their high school and attending four-year colleges. (May also be working.)	50	21%
Total	245	100%

School District Comparisons

Although rural communities may be more internally homogeneous than urban communities, they differ widely from each other. As Sher and Rosenfeld (1977) remark,

> Fishing villages in Maine, coal company towns in Appalachia, farm communities in Iowa, Delta counties in Mississippi, recreation communities in Colorado, Indian reservations in South Dakota, small college towns in Minnesota, migrant settlements in Texas, retirement communities in Florida, and Alaskan native villages are all "rural" (pp.4-5).

Given this variation, we would expect to find that the overall patterns of post-graduate activities discussed in the preceding section differ among our nine school districts.

In fact, these patterns do differ. In New Rheinland[3] high school graduates tend to work and live within fifty miles of the community. In Mount Olivia most of the graduates continue their educations, attending either two-year or four-year colleges. In New Brunswick, four-year college is the most popular choice, at institutions in both nearby and distant communities. Uppsala Valley's graduates, like New Rheinland's, mostly settle within 50 miles. But in Uppsala Valley the people who are unemployed for at least part of the year and are not continuing their education outnumber those who are working full time and not attending school.

The diversity among these districts in what their graduates do and where they live should be expected on the basis of geography alone--see Figure 1, which locates the nine rural school districts. There is every reason to assume that these communities differ in ways important to high school seniors who are deciding what to do upon graduating and where to do it. When we in fact cross-classify the five groups of graduates (as defined in Table 6) by school district, we observe a highly significant statistical association between post-graduate activity groups and districts (Table 7).

Knowing that the nine districts also differ markedly on many characteristics that might be thought to explain these differences in postgraduate activities, we decided to assess the relationship of these characteristics with the percentage of graduates in each of the five groups at the district level. The potentially explanatory characteristics we looked at included a variety of economic and demographic indicators and teachers' perceptions of their pupils and schools. Figures 2 and 3 visually display the dramatic differences among the nine school districts on these characteristics. (The data on which these figures are based can be found in the Appendix.)

In the following paragraphs we describe the postgraduate activity patterns in each district and make reference to the economic and demographic characteristics and the teacher perceptions displayed in Figures 2 and 3.

Mount Olivia

Mount Olivia has the highest percentage of graduates in two-year vocational or junior colleges, has the next lowest percentage in four-year colleges close by, and is average in its percentage of graduates sent to distant four-year colleges. This district loses graduates to distant places, as seen in the

[3]In order to respect their privacy, pseudonyms are used for each of the nine school districts.

Figure 1:

Geographical Location of the Nine Experimental School Districts for Small Schools Serving Rural Areas

TABLE 7

Number of Graduate Respondents in Each of Five Groups of Postgraduate Activities by School District

Postgraduate Activity		School District									Totals	
		North-hampton	New Rheinland	Uppsala Valley	New Brunswick	Yorktown	Saint Martin	Hannover	Mount Olivia	Glasgow	N	%
Unemployed		7	2	8	7	2	5	2	6	3	42	17%
Working		11	12	6	17	9	2	1	5	4	67	27%
Two year colleges		8	7	4	5	3	5	1	13	10	56	23%
Local four year colleges		4	1	8	11	0	1	0	1	4	30	12%
Distant four year colleges		3	3	5	16	8	1	1	7	6	50	21%
Totals	N	33	25	31	56	22	14	5	32	27	245	—
	%	13%	10%	13%	23%	9%	6%	2%	13%	11%	—	100%

Chi-Square, adjusted for cells with low expected values, was significant at .0026.

low percentages of graduates working nearby or attending colleges nearby, although several institutions of higher education are close by. Mount Olivia itself is only 83 miles from an urban center. It has recently been undergoing a population decline and many of its residents face periodic unemployment. These two facts may explain the high migration. Mount Olivia's teachers are concerned about the academic ability of the pupils as well as their lack of motivation. They also feel that there is a relatively severe problem in adequately preparing their students for post-secondary education.

Uppsala Valley

Uppsala Valley is about 10% over the sample average in college attendance with one-quarter of those attending college within 50 miles of home. Although the percentage of graduates living nearby and not in school is the same as in the entire sample, Uppsala Valley has a higher concentration of unemployed graduates (and a lower concentration of employed graduates) than the sample. This finding is curious in that Uppsala Valley has recently experienced economic expansion and overall has a relatively low unemployment rate. It may be that this is an instance of the lack of entry level jobs appropriate for high school-only job applicants. It is also interesting to note that Uppsala Valley's teachers are among the most sanguine about their pupil's prospects.

Yorktown

Yorktown's share of graduates in college is over the sample's average. However, all of them are attending college far from home. Yorktown has few unemployed graduates and many working in their home communities. This is the case even though Yorktown, according to 1970 census data, was going through a period of transition and slight economic depression as it attempted to diversify from lumbering and other forest related industries. Some progress towards this diversification has been made as of the time of our graduate survey. Yorktown's teachers were, across several different measures, the most satisfied with what their schools were accomplishing in the areas of basic skills training and job skill provision.

Hannover

With a respondent group of five, any confidence in percentage estimates would be misplaced. Hannover is located on an isolated peninsula 55 miles from the nearest urban center with an economy heavily dependent on logging industries.

Northampton

None of Northampton's groups is far from the overall average percentage. There are about 10% fewer graduates in colleges that are far away and 10% more working or unemployed living nearby. Northampton is a prosperous community located only 35 miles from the nearest urban center. In 1970, it was sending, compared to the other eight districts, a smaller percentage of its graduates on to college. Northampton's teachers were the most pessimistic about their pupils' chances of succeeding in jobs or in post-secondary school. They felt that this was attributable to either

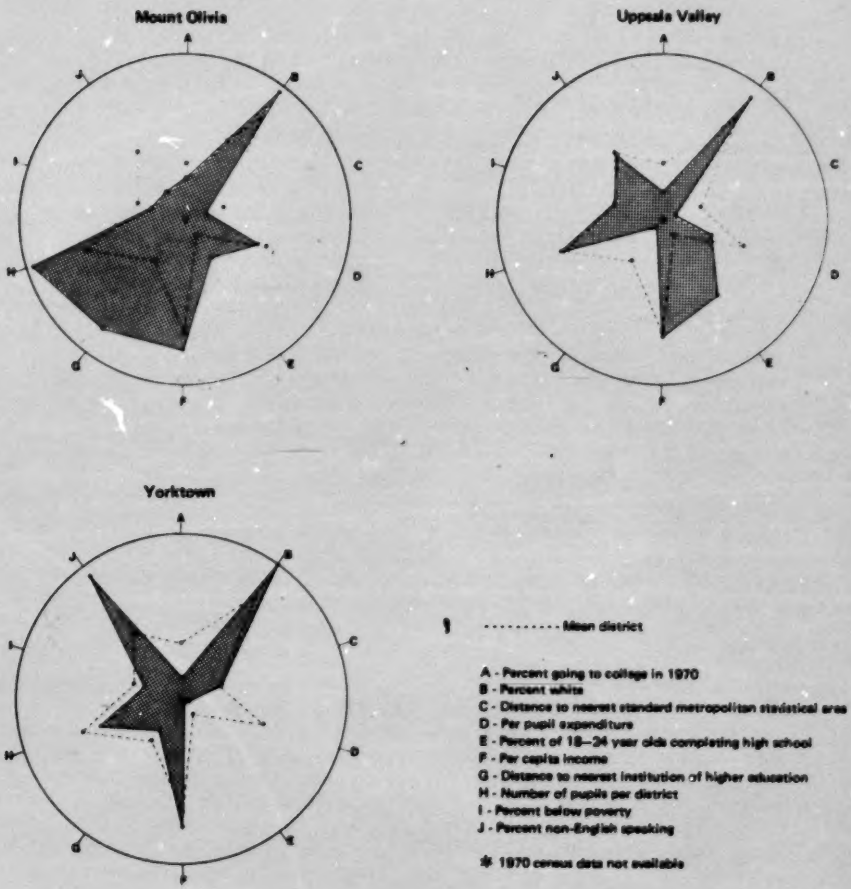
lack of motivation or academic ability of their students. They were the most critical of their school's ability to cope with the problems they perceived their graduates as having.

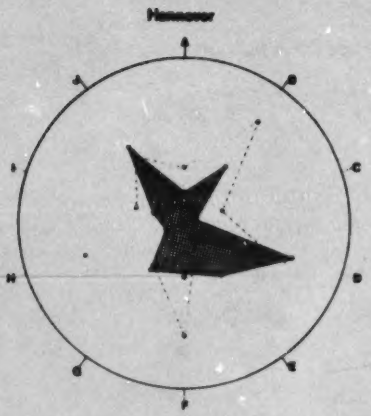
New Rheinland

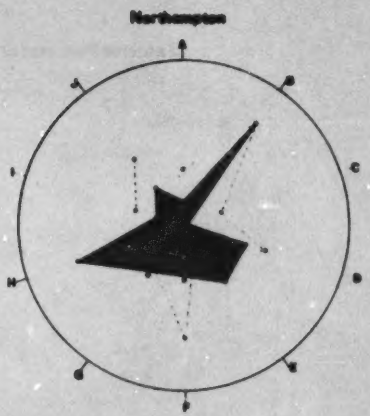
New Rheinland is unusual. With a high percentage of graduates remaining in their home community, it manages to have the lowest unemployment rate (8%) and the highest employment rate (48%) among those graduates living nearby and not attending school. Only 16% of the graduates are in college, most of them going further than 50 miles, which is not at all surprising given

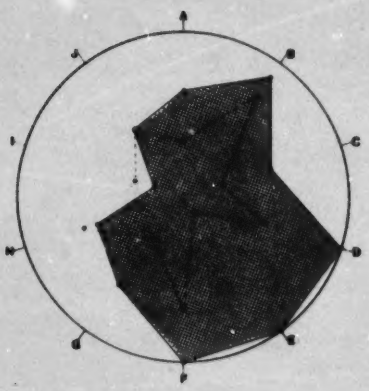
FIGURE 2

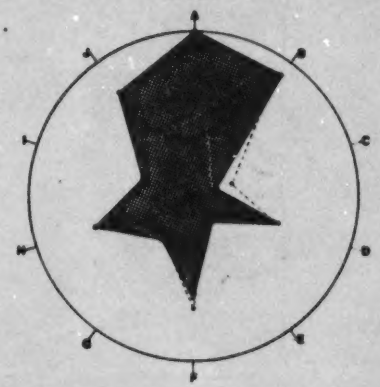
School District Community Characteristics

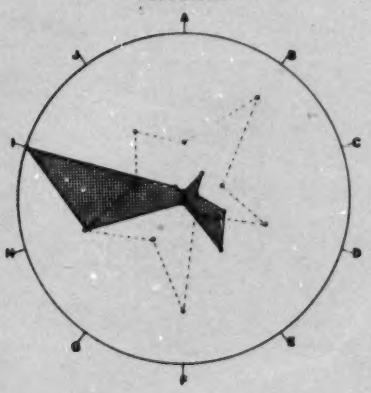












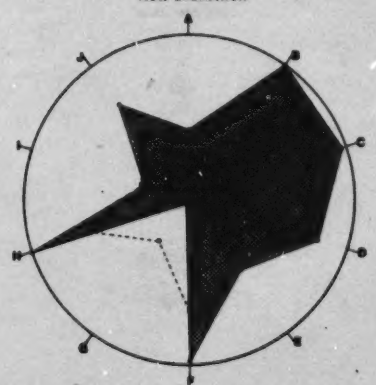
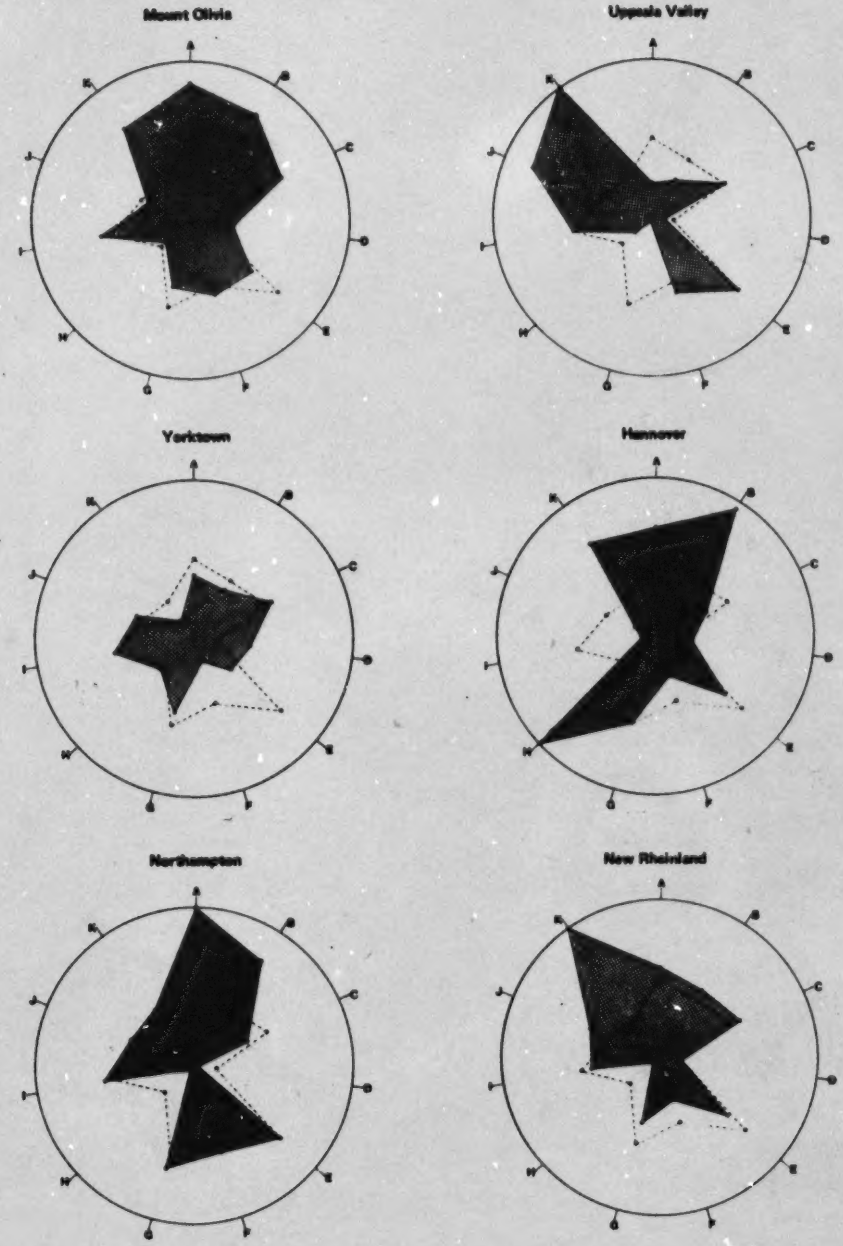
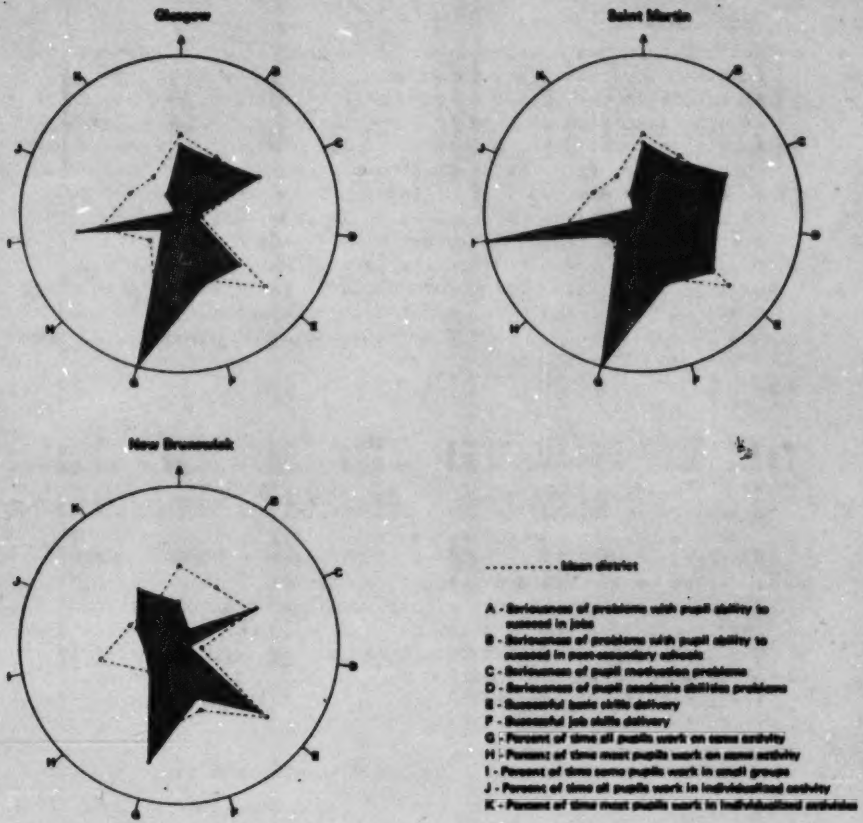


FIGURE 3

Teacher Perceptions of Their Pupils and Schools




Glasgow
Saint Martin
New Brunswick
Mean district
A - Seriousness of problems with pupil ability to succeed in jobs
B - Seriousness of problems with pupil ability to succeed in post-secondary schools
C - Seriousness of pupil motivation problems
D - Seriousness of pupil academic abilities problems
E - Successful basic skills delivery
F - Successful job skills delivery
G - Percent of time all pupils work on same activity
H - Percent of time most pupils work on same activity
I - Percent of time some pupils work in small groups
J - Percent of time all pupils work in individualized activity
K - Percent of time most pupils work in individualized activities

that the size of the school district is roughly equivalent to the size of the entire state of Connecticut. New Rheinland is located 200 miles from the nearest urban center. The Western culture with ranches, snowstorms, and livestock is an integral part of the local environment. New Rheinland has been experiencing a period of economic expansion. It also has the highest per-pupil expenditure of all the nine districts ($1329). Along with Uppsala Valley, New Rheinland's teachers report the most extensive amount of individualized instruction.

Glasgow

Glasgow and Mount Olivia have similar profiles. Though they differ in that Glasgow has 12% more graduates in nearby colleges and 7% fewer unemployed persons, Glasgow has more people attending vocational and technical two-year colleges than any other district--74%. This community is located 85 miles from the nearest urban center in the grassland plateaus of the Southwest. Glasgow has a sizeable proportion of Spanish-speaking residents. Glasgow's teachers report nearly the least amount of individualization and small-group work of any district.

Saint Martin

Saint Martin has a high number of unemployed graduates and low number of graduates working nearby. It is the lowest of all districts in percentage of graduates in college, but has the second highest percentage following other post-high school education. This school district is located in the deep South only 60 miles from the nearest population center and only 21 miles to both four and two-year colleges. The population of 5,908 is one-third black. Economically, it is a very poor community. Its per capita income is lowest of all nine districts; 40% of the population is below the poverty level. Many residents seek employment in neighboring communities. Saint Martin's teachers, compared to all the other eight districts, believe that lack of motivation and, to a lesser degree, poor academic ability impede their students.

New Brunswick

New Brunswick is the highest district in college attendance and the lowest in vocational and technical post-secondary education. With the largest population of all nine districts (9858), New Brunswick is located in the North Central Plains states and is isolated; the nearest urban center is 375 miles away. The nearest vocational and four-year colleges are, however, located only 20 miles away. New Brunswick is suffering an economic decline in its major mining industry with concomitant high unemployment rates, but it still has the highest per capita income of all nine districts. New Brunswick's teachers rank their pupils' academic ability and ability to succeed in college very highly and are confident that their schools are accomplishing the objective of preparing their students for college.

These capsule descriptions of the districts and their graduates have some intuitive appeal in that many of the connections between post-graduation activity patterns and community characteristics seem logical. For example, New Rheinland is a prosperous ranching and farming community and has a very low unemployment rate for graduates. Saint Martin is a very poor community and has a very high number of its graduates unemployed. However, when we analyzed in a more systematic way the relationship between economic and demographic indicators and teacher perceptions on the one hand, and the amount of unemployment or further education among our sample of graduates on the other, we found that few of the relationships we thought mattered appeared to be strong and consistent ones. Only two characteristics were consistently associated with postgraduate activities (Table 8). However, these associations may well be coincidental as we were looking at 21 characteristics across only nine districts.

The two conclusions we draw from the observed associations are:

- The farther away from an urban center a school district is located, the lower the unemployment rate of its graduates.

- The more serious a problem the teachers perceived with pupil motivation, the larger the number of students continuing their education.

Why would a district farther away from an urban center have lower unemployment rates than those located closer? One plausible hypothesis might be that high school seniors can more accurately assess the employment possibilities available in their own, more remote, community and plan accordingly. Or, if we can generalize from our small sample of districts, it may be that since the more remote areas are more agricultural or involved in extractive industries, finding employment is easier. We, however, know of no research that would predict such an inverse relationship between distance to an urban center and unemployment.

The second finding is also counterintuitive. With the exception of Saint Martin, the surprising pattern is relatively consistent. One possible explanation is that believing that one's students are insufficiently motivated is related to holding high standards for one's pupils. It is conceivable that more demanding teachers produce more "successful" students. Alternatively, if we look at the two highest-contrast school districts, i.e., those with a high number of graduates continuing their education and low perceived pupil motivation (Mount Olivia and Glasgow) most of their graduates are attending two-year rather than four-year colleges. Their teachers may feel this is disappointing, that more should be attending four-year colleges. In a third high-contrast district, New Brunswick, while the teachers are dissatisfied with pupil motivation, they are highly pleased with their students' academic performance and are confident of their pupil's preparation for higher education. There is, as well, one notable case (Saint Martin) where the teachers' assessments of low pupil motivation is matched by a poor record of two- or four-year college attendance.

The overriding conclusion we draw from this cursory review of school district differences is that they indeed exist but we have not been able to develop a theory that explains the relationships between district characteristics and student choices of postgraduate activities. It seems to us that these relationships, which have been found elsewhere, are thought to be better understood than they actually are.

Having found such school district variability in postgraduate activities within our rural sample, we might expect to find that, taken together, they are indistinguishable from an urban or suburban sample. Rural communities as a group may mirror the diversity of the nation as a whole. In the next section we address the issue of rural-urban-suburban differences.

TABLE 8

Rankings of Two School District Characteristics and Two Graduate Activities by School District

School District Characteristics	School District								
	Mount Olivia	Uppsala Valley	Yorktown	Hannover	North-ampton	New Rheinland	Glasgow	Saint Martin	New Brunswick
Level of Unemployment	5	3	8	1	4	9	7	2	6
Distance to SMSA	5	6.5	3	8	9	2	4	6.5	1

Graduate Activity	School District								
	Mount Olivia	Uppsala Valley	Yorktown	Hannover	North-ampton	New Rheinland	Glasgow	Saint Martin	New Brunswick
Number of Pupils Continuing Education	2	4	5	9	7	8	1	6	3
Degree of Perceived Lack of Pupil Motivation	2	7	5	8	9	6	3	1	4

Key

1 = high rank
9 = low rank

A Comparison of Our Data with Those for a National Sample

By design some of the data we collected from our sample of 1974 graduates are similar to data collected by the National Center for Educational Statistics of the U.S. Office of Education in its ongoing National Longitudinal Study (NLS) of the High School Class of 1972.[4] The NLS has data from a probability sample of approximately 20,000 cases. In this section we use these data to assess the representativeness of the Project Rural sample as well as to compare our rural sample and the NLS rural sample to suburban and urban populations.

We find both some surprising differences and similarities. For example, mobility patterns among high school graduates from different types of communities are very similar. There are also not many noteworthy differences in the career and life values held by graduates from different communities. On the other hand, aspirations and plans do differ among the groups fairly dramatically.

Rural educators and national educational policy makers are frequently engaged in the process of educational needs assessment for rural students. Educational resources, teachers, dollars, facilities, and libraries are thought to be more limited in small schools serving rural areas than in either suburban or urban schools. This in part results from a national priority, or at least concern, for large city problems. Another part of the explanation lies perhaps in what may be a romantic view of small towns and rural areas. It is believed that rural schools have some advantages, i.e., less violence, more equality, than inner city schools. In any case, needs assessments should address differences in student outcomes as well as differences in inputs or resources. It is for this reason that comparisons among rural, suburban, and urban graduates are of interest. In the following pages the values, aspirations, postgraduate activities, self-concept, and plans of rural graduates are compared with those of urban, suburban, and small town high school graduates.

The comparison of the NLS sample with the Project Rural sample is not perfect as we are comparing 1972 and 1974 graduates, respectively. For example the general drop in college attendance over those two years, and other long-term trends as well, may account for some observed differences. Nevertheless,

[4] These data are available courtesy of Research Triangle Institute, which directs the study for the National Center for Educational Statistics.

the data we present in the next few pages, though publicly available, have not been published before for the purposes of relating community population density to graduate characteristics.

In the tables that follow we present four types of NLS communities:

- rural or farming community
- small town or city of fewer than 50,000 people that is not a suburb of a larger place
- suburban communities of any size
- urban communities of any size greater than 50,000

The four-way breakdown neatly splits the NLS sample into four relatively equally populated groups, i.e., each group contains 25% of the graduate population. It should be noted, however, that respondents in the Project Rural sample within a particular school district were not always consistent in identifying themselves in distinguishing between the first two categories. We believe this occurred not because the question was confusing but because students who live in the middle of a town, no matter how small, place themselves in the small town category. Rather than collapse the initial two categories (rural and small town) we maintain the split because traditionally in sociological research on community size, the largest differences in behavior and attitudes have been observed at the extremes, i.e., between the very rural and farming communities and communities of all other sizes (Glenn and Hill, 1977).

We have not carried out an analysis on the NLS data in this section; rather, we simply present percentages.[5] However, we need to define what we will be referring to as striking differences and those differences that we will refer to as unimportant. In comparing the Project Rural sample to the National Longitudinal Study's rural and small city sample, we will consider differences of less than ten percentage points (over the whole range) as too small to be interesting to educators or policy makers. Our "effect size" criterion is more than ten percentage points. As there was no expectation that our sample was a nationally representative sample we would be surprised if it matched well with a national probability sample. We know, for example, that our nine school districts are somewhat more prosperous than the typical

[5] The percentages presented from the National Longitudinal Sample are adjusted by the sampling weights so the percentages shown reflect estimates for the national population of 1972 high school seniors.

rural school district (National Center for Educational Statistics, 1970). We also know that our response rate is biased towards the more "successful" graduate (see footnote, page 1). Further, no statistical test can be applied to the differences between samples of such disparate size. When we are comparing differences between the rural, small town, suburban, and urban categories within the National Longitudinal Study we will remark on differences of five percentage points or more. Given the size of the sample, quite small differences are likely to be statistically significant.

We should hasten to inform the reader that what is outstanding in these data is the absence of striking differences. In one critical area, however, there are sizeable differences: fewer rural than urban seniors plan to, aspire to, or actually do attend academic post-secondary programs. The comparison is even more stark within the NLS sample than between the Project Rural sample and the NLS sample because a somewhat higher percentage of graduates from our nine school districts are attending four-year colleges (this may be an artifact of the respondent or total sample bias). Table 9 shows that 32.6% of the NLS rural sample is attending academic courses at two- or four-year colleges as compared to 54.3% of the NLS urban sample. Similarly, Table 10 shows that as seniors, 29.5% of the NLS rural sample planned to attend four-year colleges as compared to 43.2% of the urban sample. A similar disparity shows up in aspirations for postgraduate education (M.A., Ph.D., M.D., etc.); 26.5% of the NLS rural sample and 45.9% of the urban sample hope to obtain higher degrees. The pattern for plans is similar. Conversely, substantially more rural graduates hope to and plan to attend vocational and technical courses at trade or business schools. (Surprisingly, actual attendance figures are similar.)

An area where we might expect to find rural-urban differences is in mobility. Table 11 demonstrates how small these differences turn out to be. Nearly identical percentages of high school graduates in all groups have remained in the same place. The biggest difference is between small town residents and suburban residents. Of the former 43.8% have remained in their home communities while 53.3% of the latter have remained. All other differences appear very small.

If it is not differences in mobility that explain the differences in postgraduate activities, differences in the career and life values--i.e., statements by the high school senior about what they are looking for from their lives and careers--may be revealing. This would seem a reasonable hypothesis given that sociologists have long claimed that there ought, in theory at least, be attitudinal differences between rural and urban pop-

TABLE 9

Percent of High School Graduates Engaged in Various Post-Graduation Activities by Sample

Post-Graduation Activities	Project Rural Sample	National Longitudinal Study Sample				
		Rural/ Farming	Small Town	Sub-urban	Urban	Total
Working (full or part-time)	50.4	67.0	63.6	67.3	63.5	65.3
Studying vocational/ technical subjects at any kind of school or college	12.6	15.8	13.6	14.8	15.1	14.8
Academic courses at two year or four year college	39.6	32.6	44.0	43.0	54.3	43.9
Unemployed	13.0	8.1	8.5	8.9	7.3	8.2

Columns do not add to 100% because some respondents are both working and in school.

TABLE 10

Educational Aspirations and Plans Percentages by Sample Categories

Educational Aspirations and Plans	Would Like to Attain					
	Project Rural Sample	National Longitudinal Study Sample				
		Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS
High school only	15.3	8.4	6.2	6.1	4.2	6.1
2 year Vocational/ Trade/Business	29.5	28.4	19.3	15.9	12.1	18.5
2 year junior college	9.5	8.4	8.9	9.4	7.4	8.5
4 year college	21.0	28.2	30.4	29.3	30.4	29.6
Masters, Ph.D., M.D. or equivalent	24.8	26.5	35.3	39.4	45.9	37.2

Educational Aspirations and Plans	Plan to Attain					
	Project Rural Sample	National Longitudinal Study Sample				
		Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS
High school only	NA	26.3	18.3	17.3	13.1	18.4
2 year Vocational/ Trade/Business	NA	25.8	18.4	16.2	13.3	18.1
2 year junior college	NA	10.7	12.4	14.1	13.4	12.7
4 year college	NA	29.5	39.0	38.8	43.2	38.0
Masters, Ph.D., M.D. or equivalent	NA	7.7	11.9	13.6	17.1	12.8

TABLE 11

Percentages for Distance of Current Residence from Home High School by Sample Categories

Distance	Project Rural Sample	National Longitudinal Study Sample				
		Rural/ Farming	Small Town	Sub-urban	Urban	Total
Same place	48.3	43.8	46.8	53.3	50.4	48.8
< 50 miles	16.9	25.6	20.8	23.5	20.4	22.4
50-99 miles	8.8	9.1	7.7	4.0	5.5	6.5
100-199 miles	6.8	7.3	7.5	4.5	6.2	6.3
200-499 miles	7.1	6.8	7.6	5.6	7.2	6.8
500 or more miles	12.2	7.6	9.5	9.2	10.2	9.2

ulations. In a recent article, "Rural-Urban Differences in Attitudes and Behavior" (Glenn and Hill, 1977), the controversy over the size and importance of these hypothesized rural-urban distinctions is raised and re-examined using data from several surveys of adult males and females. The authors conclude that the similarities are more notable than the differences, but that the differences, while small, are consistent.

The evidence within the NLS sample strongly suggests that in terms of the values NLS asked about, the differences among rural, small-town, suburban, and urban high school seniors are negligible. Among twenty questions about career and life values, there were only five cases (see Table 12 and Appendix) where the differences were more than five points. These are the importance of:

- living and working in the world of ideas: urban and suburban students valued it more
- being able to give my children better opportunities than I've had: urban and small town students valued it less
- getting away from this area of the country: urban students valued it less than small town ones
- being able to find steady work: rural students valued it more
- being a leader in my community: urban students valued it less

The patterns of differences across the groups do not lend themselves to easy interpretation. For example, both suburban and rural seniors are more concerned with providing opportunities to their children than are

TABLE 12

Career Values Percentages by Sample

Living and working in the world of ideas

Sample	Not Important	Somewhat Important	Very Important
Project Rural	24.1	54.1	21.1
Rural/Farming	15.9	53.2	30.9
Small Town	15.4	51.4	33.2
Suburban	14.7	48.6	36.7
Urban	14.2	49.8	36.0
Total NLS	15.0	50.7	34.3

Being able to give my children better opportunities than I've had

Sample	Not Important	Somewhat Important	Very Important
Project Rural	11.6	44.8	43.5
Rural/Farming	4.4	25.5	70.1
Small Town	5.8	27.7	66.5
Suburban	5.7	23.8	70.4
Urban	9.5	31.3	59.1
Total NLS	6.4	27.1	66.5

Getting away from this area of the country

Sample	Not Important	Somewhat Important	Very Important
Project Rural	67.4	20.2	12.4
Rural/Farming	58.1	28.9	13.0
Small Town	54.9	29.9	15.2
Suburban	58.0	27.8	14.2
Urban	59.9	26.1	13.9
Total NLS	57.6	28.2	14.1

Being able to find steady work

Sample	Not Important	Somewhat Important	Very Important
Project Rural	6.1	40.9	53.0
Rural/Farming	2.2	17.1	80.7
Small Town	2.8	18.6	78.6
Suburban	2.5	18.5	79.0
Urban	3.5	23.2	73.3
Total NLS	2.8	19.4	77.0

Being a leader in my community

Sample	Not Important	Somewhat Important	Very Important
Project Rural	54.9	37.3	7.7
Rural/Farming	35.9	47.5	12.6
Small Town	44.7	43.7	11.7
Suburban	45.2	43.3	11.5
Urban	51.9	38.0	10.1
Total NLS	45.5	43.0	11.4

urban or small town residents. Urban and rural graduates are less concerned with "getting away from this part of the country" than those in small towns. Rural graduates are more concerned with finding steady work, less concerned with working and living in the world of ideas, and more concerned with being a leader in their home communities.

A systematic difference is noticeable between the NLS rural and small town samples and the Project Rural sample: the latter's responses are, overall, more evenly distributed among the three rating categories. This pattern is especially striking for the following values to which the Project Rural sample

either gave fewer ratings of "very important" or more ratings of "not important" (see Table 13):

- Having a position that is looked up to by others
- Freedom from supervision in my work
- Living close to parents and relatives
- Being able to give my children better opportunities than I've had
- Having lots of money

The overall response pattern of the Project Rural sample and the low ratings they assigned the specific values listed above might be explained at least

TABLE 13

Life Value Percentages by Sample

Having a position that is looked up to by others

Sample	Not Important	Somewhat Important	Very Important
Project Rural	36.1	50.2	13.7
Rural/Farming	26.0	49.6	24.4
Small Town	28.0	48.2	23.9
Suburban	26.4	46.7	26.9
Urban	28.9	47.3	23.8
Total NLS	27.4	47.9	24.8

Freedom from supervision in my work

Sample	Not Important	Somewhat Important	Very Important
Project Rural	40.7	42.0	17.3
Rural/Farming	28.5	49.9	21.6
Small Town	30.0	47.8	22.3
Suburban	29.7	47.1	23.3
Urban	28.8	46.0	25.2
Total NLS	29.3	47.6	23.1

Living close to parents and relatives

Sample	Not Important	Somewhat Important	Very Important
Project Rural	70.0	24.5	5.6
Rural/Farming	49.3	42.2	8.4
Small Town	51.4	41.9	6.7
Suburban	47.7	43.6	8.7
Urban	52.8	40.0	7.2
Total NLS	50.3	41.9	7.7

Being able to give my children better opportunities than I've had

Sample	Not Important	Somewhat Important	Very Important
Project Rural	11.6	44.8	43.5
Rural/Farming	4.4	25.5	70.1
Small Town	5.8	27.7	66.5
Suburban	5.7	23.8	70.4
Urban	9.5	31.3	59.1
Total NLS	6.4	27.1	66.5

Having lots of money

Sample	Not Important	Somewhat Important	Very Important
Project Rural	35.8	50.5	13.4
Rural/Farming	21.3	61.8	16.9
Small Town	22.2	61.8	16.0
Suburban	21.6	58.7	19.7
Urban	24.2	58.1	17.7
Total NLS	22.3	60.1	17.6

in part by looking at the attitudes about self shown in Table 14. For two items on the six item scale:

- I take a positive attitude towards myself
- I am able to do things as well as most other people

The Project Rural sample has more negative assessments of themselves. Within the NLS sample the only noteworthy differences occur between the rural and suburban groups, not the rural and urban. This may mean that the differences are not explained by population density but by relative disadvantage or social class. The differences are for the same two items mentioned above.

Sher and Rosenfeld (1977) in a recent paper state that out of a concern that schools are mistakenly socializing students in urban values there are growing "pressures to preserve rural values" (p. 71). What exactly constitutes rural values is unclear. Presumably at a minimum it would mean valuing "living close to parents and relatives" or <u>not</u> valuing "getting away from this part of the country." Our evidence indicates that rural seniors hold these values important to about the same degree as their urban and suburban counterparts (see Appendix). However, the Project Rural sample held these values substantially less important than any segment of the NLS sample. The explanation of this disparity probably lies in the response bias in the Project Rural survey. Its respondents tended to be more "ambitious" and are likely to hold these values less important. Overall, we have to conclude however that no strong rural profile in values about life or careers emerges from these data.

In turning to attitudes towards schools, we again see a great deal of agreement among high school students all over the country as to the strengths and weaknesses of their schools (Table 15). Only three attitudes show important rural-urban differences. In each case, a larger percentage of the urban group disagreed with the positive evaluation. The three are:

- School gave me new ideas about the type of work I want to do
- School provided me with counseling that helped me get a better idea of myself and my relations with other people
- School provided me with counseling that will help me find employment

These findings which indicate <u>relative</u> satisfaction on the part of the rural students may surprise rural educators who have argued for a long time that good counseling for rural students was needed and that it was

TABLE 14

Percent of Graduates Expressing Various Attitudes about Self by Response and Sample

Attitude About Self	Response: Strongly Agree						Response: Strongly Disagree					
		National Longitudinal Study Sample						National Longitudinal Study Sample				
	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS
I take a positive attitude toward myself	15.6	22.5	24.9	28.6	25.6	25.6	--	1.6	1.5	1.6	2.1	1.7
Good luck is more important than hard work for success	2.0	2.0	1.6	1.9	1.6	1.7	33.9	38.9	40.0	38.7	39.3	39.3
I am able to do things as well as most other people	13.3	23.1	23.8	28.6	26.6	25.6	.8	.7	.7	.8	.7	.7
Every time I try to get ahead something or somebody stops me	3.2	4.2	4.1	4.3	3.5	4.0	8.8	11.8	15.3	16.0	17.5	15.3
Planning only makes a person unhappy, since plans hardly ever work out anyway	3.2	4.8	4.7	5.3	4.5	4.8	21.5	26.6	26.6	27.6	27.8	27.2
On the whole, I'm satisfied with myself	18.3	15.7	17.0	19.5	18.1	17.6	.8	7.2	7.1	6.4	7.3	7.0

Low scores show negative attitudes towards self; high scores, positive ones.

TABLE 15

Percent of Graduates Expressing Various Attitudes about School by Response and Sample

Attitude About School	Response: Strongly Agree						Response: Strongly Disagree					
		National Longitudinal Study Sample						National Longitudinal Study Sample				
	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total
School should have placed more emphasis on basic academic subjects (math, science, English, etc.)	8.2	10.9	9.4	10.8	7.1	9.5	4.7	9.8	11.6	11.4	13.3	11.6
School should have provided more help for students who were having trouble with subjects like math and reading	33.2	46.6	45.2	47.1	41.8	45.2	.9	1.7	1.8	2.9	2.4	2.2
Most required courses here are a waste of time	11.5	17.7	19.8	19.9	22.0	19.9	13.2	24.8	22.6	22.4	19.1	22.2
School should have placed more emphasis on vocational and technical programs	19.0	29.2	25.5	24.3	23.0	25.4	1.7	5.1	5.3	6.4	6.3	5.8
School did not offer enough practical work experience	13.9	28.2	25.9	23.1	22.8	24.9	3.9	7.1	7.4	9.3	8.0	8.0
School provided me with counseling that will help me continue my education	8.3	18.7	18.1	20.4	17.2	18.6	13.9	10.9	13.1	14.1	15.4	13.5
School gave me new ideas about the type of work I wanted to do	8.7	17.6	17.4	20.2	17.2	18.2	11.7	18.3	20.1	20.4	23.4	20.6

TABLE 15 (cont'd)

Percent of Graduates Expressing Various Attitudes about School by Response and Sample

Attitude About School	Response: Strongly Agree						Response: Strongly Disagree					
		National Longitudinal Study Sample						National Longitudinal Study Sample				
	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS
School provided me with counseling that helped me get a better idea of myself and my relations with other people	6.5	14.3	13.6	15.8	12.2	14.0	18.5	18.1	22.0	23.3	27.9	22.9
School provided me with counseling that will help me find employment	5.6	9.5	8.4	10.1	7.4	8.8	20.3	22.5	26.4	27.5	32.0	27.2
School should help students find jobs when they leave school	15.5	38.8	37.7	41.9	38.2	39.2	3.5	7.8	7.3	7.5	7.6	7.5

difficult to afford in small schools with few administrative and specialist staff. The only other notable difference is that 5% more suburban students disagree that "school should have provided more help for students who were having trouble with subjects like math and reading."

A similar consensus occurs in the graduates' ratings of their schools on various aspects (Table 16). Here, however, urban students rated their extracurricular facilities, academic instruction, and reputation in the community higher than the rural group. These were the only differences of over 5% in all the NLS comparisons.

Once again, the Project Rural sample is more equivocal than the NLS rural sample but few of the differences are striking. The general trend of their graduates' responses is towards less positive assessments of their schools

Our conclusions from the comparative data presented in this section is that except in one critically important area--percent aspiring to continue, and actually continuing their education--there are almost no important rural, small town, suburban, and urban distinctions. Our data on career and life values as well as attitudes towards schools supports Kuvelsky's (1977) intuitions and data on the subject--rural seniors have much in common with their urban and suburban peers in terms of values:

> In general, rural youth are not very different from urban youth in their value orientations... (p. 4).

Kuvelsky feels that too much is made of statistically significant differences between rural and urban populations and not enough made of the actual size of the observed differences which he believes are relatively trivial. We agree despite the existence of the quite dramatic school district differences we reported in the previous section. National data seem to mask district-to-district variability, at least that variability apparent within the Project Rural sample. The rural/urban distinction is thus too gross to be useful perhaps both to educators or to policy-makers. This is not entirely good news for if there is to be advocacy of rural education needs, the absence of differences along many dimensions makes it more difficult to specify the particular problems of rural students.

Our conclusions about the representativeness of the Project Rural sample must necessarily be quite tentative as we have no statistical guidance in estimating whether the observed differences are real or due to sampling error. We conclude that the Project Rural sample has slightly higher aspirations and educational accomplishments than is typical of rural students. We also find that this sample of respondents consistently demonstrated more within-group variability in their responses to issues of school quality,

TABLE 16

Percent of Graduates Rating Various Aspects of School by Response and Sample

Aspects of School	Response: Poor						Response: Excellent					
		National Longitudinal Study Sample						National Longitudinal Study Sample				
	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS	Project Rural Sample	Rural/ Farming	Small Town	Sub-urban	Urban	Total NLS
Condition of buildings and classrooms	4.6	8.8	7.7	7.4	4.8	7.0	23.3	23.2	25.4	20.7	27.6	24.2
Equipment used in vocational courses	14.2	10.3	9.2	8.8	7.0	8.8	16.7	14.5	13.7	13.5	14.2	13.9
Extra-curricular facilities	11.3	12.8	12.4	10.9	9.2	11.3	13.0	12.5	15.7	15.0	19.3	15.7
Job placement of graduates	35.0	32.2	26.4	23.2	20.7	25.4	5.4	3.2	3.1	4.7	4.2	3.8
Library facilities	9.2	9.6	9.2	7.3	7.9	8.5	27.9	16.9	18.2	19.4	18.7	18.4
Quality of academic instruction	7.1	5.9	5.3	4.3	3.5	4.7	10.9	11.9	14.4	15.9	18.2	15.2
Quality of vocational instruction	7.1	7.0	7.3	6.7	5.9	6.7	14.2	12.3	11.4	13.6	11.3	12.2
Reputation in the community	3.8	5.6	5.2	9.6	5.3	6.5	22.3	24.5	29.6	27.4	34.7	29.2
Student guidance and counseling	15.6	9.2	9.2	9.1	10.2	9.4	20.7	19.7	21.6	21.4	18.5	20.3
Teacher interest in students	14.0	13.2	12.1	12.8	11.9	12.5	11.9	12.9	14.0	14.6	11.6	13.3

values and attitudes towards self than either the national rural sample or the national sample taken as a group. This is fortunate for the analysis covered in the subsequent and last section of this paper. In this last section we look to students themselves to further our understanding of their choices during the first year out of high school. What characteristics or activities shown by students in high school predict their postgraduate activities? This analysis is not carried out on a district-by-district basis but rather across the entire Project Rural sample of nine districts.

Predictions of Postgraduate Occupations of Graduates from Project Rural Sample

The young men and women in the Project Rural sample filled out questionnaires in their senior year telling about their activities, ideas, and feelings. We analyzed this information to see which of these items most clearly predicted what the pupils would be doing a year after they graduated; this section reports our findings.

The strongest predictive relationships we found match ones that have been observed in earlier research done on samples including urban as well as rural youth (see below). This increases our confidence that these relationships are genuine and enables us to apply some of the conclusions drawn from the earlier research on broader samples to our rural graduates. Other relationships we found have not been reported before and provide promising leads for future research.

One of the most noteworthy features of these preliminary findings is that some of the predictive attributes we identified are ones on which educators can have an effect. Thus, teachers and counselors might be able to influence rural students' occupational choices by modifying these attributes. For example, one such attribute is the amount of knowledge graduates had in their senior year about the educational requirements of different jobs: it predicted actual occupational behavior. Educators may thus be able to affect their students' choice of occupation by informing them about the education they will need in order to obtain various kinds of jobs.

Many analytic techniques can be used to assess predictive relationships. The method we used, expectancy table analysis, is explained step by step in the following pages. We chose this technique because, compared to most alternative methods, it required us to make fewer assumptions about the characteristics of the population of rural youth from which our sample is drawn. Expectancy table analysis has a potential drawback in

that the measures used can have only two or three values (e.g., high/medium/low). Some information may be lost when the actual questionnaire item has more than three possible values (e.g., a five-point scale.)[6]

An expectancy table represents the relationship of an outcome measure (or index) with one or more predictive attributes. The outcome index used in our analysis, Postgraduate Occupation, represents graduates' occupation in their first year out of high school. It has three categories: unemployed; working, not in school; and continuing education. Graduates in the third category, continuing education, include those who worked part- or full-time while continuing their education.

We tested 30 attributes to determine their predictive strength; the attributes are listed in Figure 4. They are of six kinds: students' background characteristics; their ideas and feelings about themselves; the importance they attached to various career and life goals; their knowledge of the incomes and educational requirements of jobs; their involvement in goal-oriented activities; and their evaluative reactions to their high schools and to the learning environment in classes they took in their senior year. Before testing, scores on each of the 30 attributes were split into two categories, low and high.

High school students' educational aspirations, stated in the fall of their senior year, proved to be far and away our best predictor of graduates' early post-high school occupation. Students scored as having high educational aspirations in the fall of 1973 were those who said they wanted to attend a four-year college or go to graduate school after college. Those in the category defined as having low aspirations said they wanted less than four years of post-high school education.

Figure 5, which displays our expectancy table, can serve to illustrate the actual testing procedure we followed. We separated the initial group of graduates into the three categories of our outcome index: unemployed (36 cases), working and not in school (79 cases), and continuing education (144 cases). These three groups were then cross-classified by their members' scores (either low or high) on an attribute. Figure 5 shows the re-

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[6]However, while some alternative techniques can use measures with more than three initial values, one group of investigators found that the predictions given by our method were as accurate as those generated by a widely used alternative method. The latter method uses more of the information available on measures with multiple values, but requires stricter assumptions about the population a sample is drawn from (Babst, Gottfredson, and Ballard, 1968, p. 73).

FIGURE 4

Predictor Attributes Tested in Expectancy Table Analysis

Background Characteristics

- Sex.
- Parents' level of education.

Ideas and Feelings about Self

- Self-esteem
- Self-esteem
- Sense of personal efficacy, or fate control.
- Sense of having strong will power.
- Sense of being controlled by luck or chance.
- Educational aspiration (how far student would like to go in school).

Importance of Specific Career and Life Goals

- The chance to be a leader.
- Making a lot of money.
- Having money and leadership.
- Idealistic values (the chance to be creative, help others, work with ideas, work with people, and correct social and economic inequalities).
- Living near and helping family and friends.
- Being independent and doing intellectual work.

Career Knowledge

- Knowledge of educational requirements of jobs.
- Knowledge of incomes and educational requirements of jobs.

Goal-oriented Activity

- Grades in school for past years, reported during fall, 1973.
- Grades in school for 1973-1974 school year, reported in spring, 1974.
- Participation in community activities (such as church, youth organizations and government meetings) reported in fall, 1973.

FIGURE 4 (cont'd.)

- Participation in community activities, reported in spring, 1974.
- Striving for achievement, as shown in participation in extracurricular and community activities, amount of homework completed, importance to self and other students of good grades and being smart, and frequency of discussing future plans and present conduct with school personnel, relatives, friends and other adults.

Evaluation of School

- General rating summarizing student's evaluation of high school buildings, equipment, counseling, other services, and instruction.
- Praise for counseling offered in high school.
- Wanted more vocational and technical programs, work experience, and help with math and reading in high school.
- Wanted more emphasis on basic academic subjects and less on vocational and technical programs.
- Openness of classroom environment, English, science and history or social studies classes, reported in spring, 1974.
- Goal direction of first Monday class, fall, 1973.
- Formality of first Monday class, fall, 1973.
- Pleasantness and interest value of physical environment, first Monday class, fall, 1973.

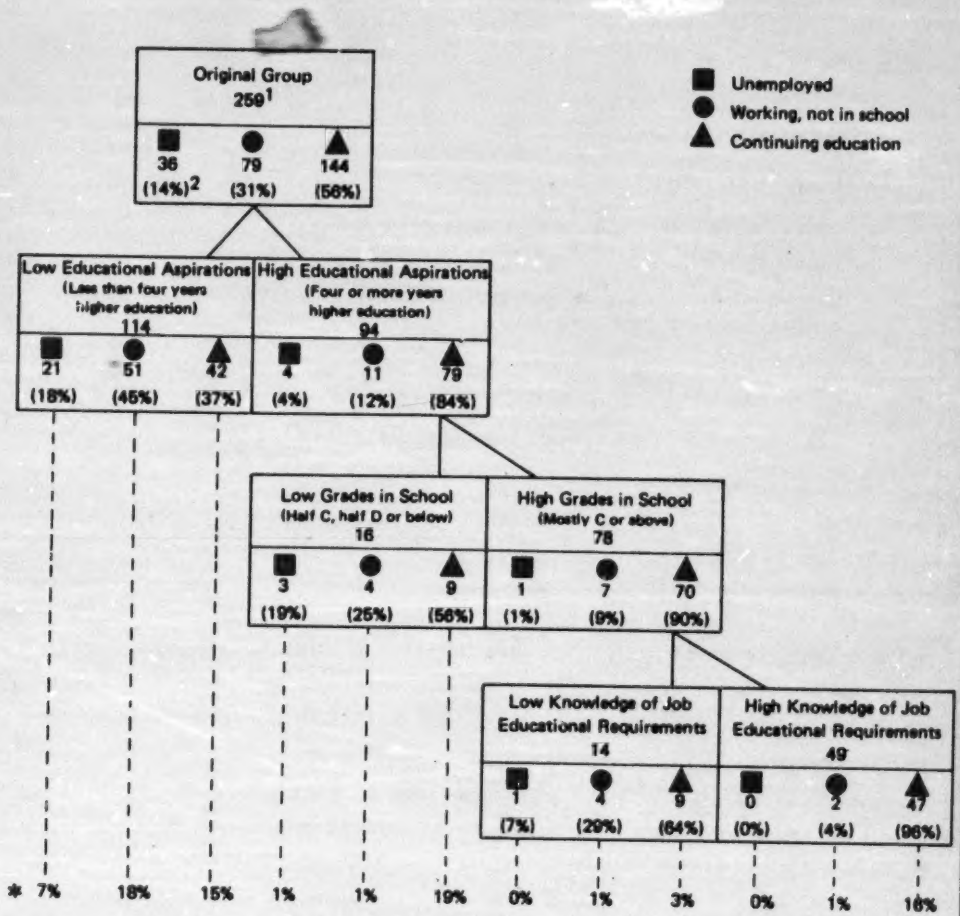
sults of the cross-classification with our best predictor, educational aspirations. Students with high educational aspirations were more than twice as likely as those with low educational aspirations to continue their education during their first year after high school (84% vs. 37%). Conversely students with low educational aspirations were roughly four times as likely as those with high aspirations to be working and not in school or to be unemployed (45% of students with low vs. 12% of those with high aspirations were working and not in school; 18% of those with low vs. 4% of those with high aspirations were unemployed). This procedure was followed for each of the other 30 attributes, which were then ranked according to their predictive strength.

A substantial relationship between educational aspirations and both educational and occupational attainment has been observed in earlier studies, including one done on a sample of Wisconsin farm males (Sewell, Haller and

FIGURE 5

Expectancy Table Analysis

Outcome Index: Postgraduate occupation
Predictive Attributes: Fall, 1973, educational aspirations;
School grades, past years, reported in fall, 1973
Knowledge of job educational requirements



[1]Numbers without parentheses indicate the number of graduates in each group. These numbers do not add to 289 across groups because of missing data.

[2]Percentages appearing in parentheses indicate the percent of graduates within groups in each category of the outcome index. These percentages may not add to 100, due to rounding errors.

*Percent of total sample of 289 graduates

Portes, 1969) and others done on samples containing urban as well as rural youth (Kohout and Rothney, 1964; Sewell and Shah, 1967; Kuvlesky and Bealer, 1967; Sewell and Shah, 1968; Bohlen and Yoesting, 1968; Portes et al., 1968; Sewell, Haller and Ohlendorf, 1970). Hence we feel that our finding showing a strong relationship between aspirations and postgraduate occupation is valid both for our own sample and for high school students in general. Furthermore, although our sample of school districts was selected on a competitive rather than a random basis, it does not appear to be idiosyncratic. We are led to infer that our other findings may also be widely applicable.

What are the implications for educational policy and practice of the evidence that a student's educational aspirations predict whether or not s/he continues schooling beyond high school? This depends on whether or not we assume that students' aspirations cause them to continue their education; for these data, though suggestive, do not prove a causal relationship exists. Thus, it is possible that one could modify a student's aspirations without influencing the probability that s/he will actually further their education. Nevertheless, we consider it reasonable to assume a causal relationship.

If we are right in making this assumption, the data showing the predictive relationship of aspirations with education take on applied educational significance, especially when considered in the light of another finding that has consistently emerged in earlier research in this area. The research in question dealt with the "significant others" in a student's life, that is, parents, teachers, and friends (Sewell, Haller, and Ohlendorf, 1970; Sewell, Haller, and Portes, 1969). It has been found that the level of education significant others expect a student to attain and the level they themselves exhibit predict the level of the student's educational aspirations. If we again assume that a causal relationship exists, an interesting possibility arises. (1) Educators may be able to modify students' level of educational attainment indirectly by influencing their aspirations. (2) This could be done by bringing students in contact with people who hold higher expectations and who exhibit standards of educational attainment higher than those the student has been exposed to in the past. Mere contact is not enough though. These people would have to be or become "significant others" for the students whose aspirations are being manipulated.

So far, we have discussed only one of the predictive attributes shown in Figure 5. School grades, the second, emerged during the next stage of the construction of the expectancy table. During this stage we used not the original group but the high aspiration group to test the re-

maining 29 attributes. This group's 94 cases were separated into the same three categories (unemployed, working, and continuing education) and cross-classified by their scores on each of the remaining attributes. Again, the attributes tested at this stage were ranked by predictive strength; school grades headed the list.

Among students with high educational aspirations, then, grades in school most clearly predicted what students did in their first year out of high school. This finding again dovetails both with our common sense expectations and with existing evidence from other samples of high school students.

In the third stage of our analysis, we found that among the group of students with high educational aspirations and high grades in school, a test of the student's knowledge of the educational requirements of ten different jobs emerged as the best predictor of whether s/he continued their education immediately after leaving high school. Those who correctly answered five or more of the ten questions in this test were half again as likely to continue their education as those with four or fewer right answers (96% vs. 64%). High in comparison to low scorers were correspondingly much less likely to be working (4% vs. 29%) or unemployed (0% vs. 7%).

This is a new finding not yet witnessed in research on educational attainment. The test of knowledge of educational requirements of jobs was developed specifically for our study. Our finding that this test discriminates among students with high grades who do continue their education in their first post-high school year from those who do not indicates it may be a valid and useful measure. Furthermore, proponents of career education programs can cite this finding as support for their efforts to inform students about the educational requirements of jobs. A causal inference is not a necessary implication of the evidence we have reported, but we feel in view of its applied educational significance it deserves to be tested in future research.[7]

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[7]Though Figure 5 displays only three stages of an expectancy table analysis, succeeding stages are possible. As before, the cases in a group are cross-classified by the outcome index vs. the remaining attributes, and the best predictor becomes the base for the subsequent stage. This subdivision of cases continues until none of the predictor attributes tested for a given group of cases meets a criterion for predictive strength set by the investigator. Our criterion was that the predictive strength of at least one attribute tested yield a chi-square value large enough to be judged not a product of chance at the 90% confidence level, using a correction factor proposed by Bonferroni (Kramer, 1972).

As previously mentioned, during the first stage of our analysis we tested all 30 attributes and ranked them according to their predictive strength. Table 17 lists the measures that showed a predictive relationship with postgraduate occupation strong enough to be judged likely to have occurred by chance no more than once in ten repetitions of the study. For each predictive attribute, we show the value of our measure of predictive strength, the statistical test chi-square.[8] Higher chi-square values indicate greater predictive strength.[9]

The first feature of Table 17 worthy of comment is the appearance of the two attributes that emerged at the second and third stages of the analysis, grades in school in past years and knowledge of job educational requirements. Also shown in Table 17 are two closely related attributes--grades in school for 1973-1974, and a measure representing the combined scores on the job educational requirements test, and a test of students' knowledge of the relative income levels of different jobs. The fact that two different measures of school grades and occupational knowledge were found to be strong predictors in stage one of the expectancy table analysis supports a conclusion that these two attributes tend to predict postgraduate occupation for the sample as a whole. The expectancy table itself tells us that cumulative grade point average and knowledge of job educational requirements are especially strong predictors and that they discriminate best among students who, while still in high school, aspire to four or more years of post-secondary education.

Three measures of students' goal-oriented activity in high school were also identified as strong predictors. This is an intuitively compelling result which has not been reported for other samples. Two of the three measures in this group represent the frequency with which students reported attending the following community activities (or using the following facilities):

- The meeting of a formal youth organization
- A public recreational facility

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[8] We applied the Bonferroni correction to adjust the probability levels assigned to chi-square values to reflect the fact that we tested 30 predictors in relation to each outcome index.

[9] The reader should note that the ordering of attributes in the first stage of our analysis is not consistent with the ordering that results from the expectancy table analysis (see Table 16) discussed earlier, i.e., in the first stage knowledge of education outcomes had a higher chi-square than grades; however, in the second stage analysis that order reversed itself.

TABLE 17

Nine Strong Predictive Attributes of Postgraduate Occupation*

Predictive Attribute**	Predictive Strength***
1. Educational aspirations.	47.19
2. Knowledge of job educational requirements.	22.16
3. Grades in school for past years, reported fall, 1973.	20.07
4. Knowledge of job educational requirements and knowledge of incomes of different jobs.	19.52
5. Participation in community activities, reported in fall, 1973.	19.16
6. Participation in community activities, reported in spring, 1974.	18.73
7. Openness of classroom environment, ratings given for English, science and history or social studies classes.	16.81
8. Striving in goal-oriented activities.	16.59
9. Grades in school for 1973-1974 school year, reported in spring, 1974.	15.19

*As identified in stage one of expectancy table analysis
**In order of decreasing predictive strength
***Value of chi square coefficient

- Church
- A public library
- A school board meeting
- A governmental or political meeting.

The third attribute, which we have named striving, combines scores for students' answers to the measure of participation in community activities and to several other questions asking how much homework they usually complete, how often they participate in extracurricular activities offered at school, how important it is to them and to other students in their school to get good grades and to be smart in school, and how often they discuss their future plans and their conduct, in school and out, with school personnel, relatives, friends and other adults. The group of students with higher scores on these attributes were about half again as likely to continue their education in their first year after high school as those who reported less goal-oriented activity. High strivers were

slightly less likely to work without continuing their education and were much less likely to be unemployed.

Our findings do not promise that the experience students gain from these goal-oriented activities will enhance the prospect of their continuing their education and reduce the chance they will be unemployed. Our measures may reflect an innate energy level or degree of initiative and persistence which helps to determine both goal-oriented activity in high school and early postgraduate occupation. It is worth noting, though, that our results are at least consistent with the former possibility. If so, parents and educators who encourage a student to participate in goal-oriented activities may increase the likelihood that s/he will continue their education soon after high school and decrease the probability of their being unemployed in that period.

Students' perception of the openness of their classroom learning environment in high school also strongly predicted first year postgraduate occupation. This attribute was measured by 12 questions. Some of the questions in this set asked how often students work alone in small groups during class, how often they walk around in the class, and whether they are permitted to work at a different rate from other students. Students answered these questions about their English, science and social studies or history classes. The measure that emerged as a strong predictor represents the average score on responses to these questions for the three classes, so it may be interpreted as representing the average amount of openness across classes within schools. Students who reported greater openness were more than twice as likely to continue their education after high school (60% vs. 28%). Students who reported less openness were more than half again as likely to work without continuing in school (59% vs. 32%) and to be unemployed (13% vs. 8%). This suggests our classroom openness measure may be an important indicator of educational techniques which promote students' chances of furthering their education beyond high school and counteract the likelihood that they will be unemployed, at least in their first post-graduate year.

In stages two and three of our analysis the only attributes that met our minimum criterion for strong prediction were the ones included in the expectancy table itself. None of the attributes we tested discriminated strongly among students with lower educational aspirations; among those with high aspirations but low grades; or among students with high aspirations, high grades, and high or low knowledge of job educational requirements. The analysis was therefore terminated.

Conclusions

Our discussion of the reports of rural high school graduates one year out reaches four major conclusions:

- Few rural graduates one year after high school graduation are leaving their home communities to seek jobs elsewhere. If they are seeking employment they find it at home. Graduates usually leave to continue their education--not for jobs.

- Patterns of postgraduate activities are very different across school districts and not easily explained by community demographic differences.

- When district variations are averaged out, rural, small town, suburban and urban high school graduates are surprisingly similar in terms of values, attitudes, and in their evaluations of the schools.

- Educators may find it possible to enhance the probability that students will further their education or reduce the likelihood of their being unemployed through educational practices designed to modify the students' aspirations, career knowledge, and participation in goal-oriented activities, and to regulate the openness of classroom environments the student experiences.

In addition to these four major conclusions, our findings suggest other areas for inquiry. The unemployment rate of 33% reported for our sample of graduates is high and should be a source of concern to educators. The very substantial differences in aspirations, plans, and postgraduate activities of the rural and small town samples as opposed to the urban and suburban samples is also perhaps a cause for concern, especially since those differences do not seem related to differences in mobility of graduates.

We have also presented in this report some findings which are perplexing: the farther away from a metropolitan area a community is located the lower the unemployment rate of its recent graduates and the lower the perceived motivation of pupils by their teachers the larger the number of students continuing their education. Our school district size of nine prevents us from more than speculation on these anomalous findings. We also reported some interesting data on students' attitudes towards their schooling. The rural sample, relative to the urban sample, was more satisfied with the counseling they received but expressed less confidence in their schools' academic instruction, reputation in the community, and the adequacy of their extracurricular facilities.

Overall, however, the predicament that this report leaves unresolved is one that has plagued other researchers, educators and policy-makers. We have not very effectively isolated "rurality." The evidence suggests that it may not exist as a distinguishing characteristic of high school seniors.

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APPENDIX

TABLE A-1

School District Community Characteristics

	SCHOOL DISTRICT									
	Northampton	New Rhineland	Uppsala Valley	New Brunswick	Yorktown	Saint Martin	Mount Olivia	Hanover	Glasgow	Average District
(A) Percent going to college in 1970	26	47	27	38	25	21	30	28	62	34
(B) Percent white	95	98	98	100	100	83	99	88	98	95
(C) Distance to nearest standard metropolitan statistical area (miles)	35	225	60	375	125	60	83	55	85	123
(D) Per pupil expenditure (dollars)	787	1329	739	1178	473	672	884	1018	886	895
(E) Percent of 18–24 year olds completing high school	60	72	63	62	51	59	57	59	55	53
(F) Per capita income ($1000 units)	*	2.94	2.50	2.90	2.60	1.40	2.60	*	2.30	2.48
(G) Distance to nearest institution of higher education	*	90	24	20	45	21	106	56	53	52
(H) Number of pupils per district	1659	1366	1510	2350	1217	1507	2275	341	1503	1541
(I) Percent below poverty	11	11	16	15	13	40	13	12	16	16
(J) Percent non-English speaking	9	15	14	21	27	3	7	17	23	15

* Because of non-correspondence between 1970 census tracts and school district boundaries these data are not available.

TABLE A-2

Teacher Perceptions of Their Pupils and Schools

	SCHOOL DISTRICT									
	Northampton	New Hopeland	Lehigh Valley	New Brunswick	Yorktown	Saint Marks	Mount Olive	Hamilton	Clinton	Average District
(A) *Seriousness of problems with pupil ability to succeed in jobs	2.8	2.0	1.5	1.6	1.8	1.8	2.4	2.2	1.8	1.9
(B) *Seriousness of problems with pupil ability to succeed in post-secondary schools	2.3	1.9	1.6	1.3	1.7	1.8	2.3	2.5	1.8	1.8
(C) *Seriousness of pupil motivation problems	1.7	1.9	1.9	2.0	1.9	2.1	2.1	1.7	2.0	1.8
(D) *Seriousness of pupil academic abilities problems	1.2	1.4	1.3	1.2	1.7	1.9	1.6	1.5	1.3	1.4
(E) †Successful basic skills delivery	2.2	2.0	2.2	2.2	1.8	2.0	1.9	2.1	1.9	2.2
(F) †Successful job skills delivery	2.0	1.8	1.8	1.7	1.4	1.9	1.9	1.6	1.8	1.8
(G) §Percent of time all pupils work on same activity	39	34	25	41	35	46	34	37	46	37
(H) §Percent of time most pupils work on same activity	15	18	19	22	23	21	21	43	19	22
(I) §Percent of time most pupils work in small groups	18	16	17	13	17	24	18	11	19	17
(J) §Percent of time all pupils work in individualized activity	15	18	23	12	14	7	12	9	6	13
(K) §Percent of time most pupils work in individualized activities	13	17	17	13	11	11	15	15	11	12

KEY

* Average district score of teachers' evaluation of the seriousness of a given problem:
- 3 = This is a serious problem in my school
- 2 = This is a moderate problem in my school
- 1 = This is a minor problem in my school
- 0 = This is not a problem in my school

† Average district score of teachers' evaluation of the degree to which schools are accomplishing a given objective
- 3 = Very well
- 2 = Moderately well
- 1 = Slightly well
- 0 = Not well at all

§ Average district score of teachers' reports on the percentage of time their pupils spend in given activities

TABLE A-3

Career Values Percentages by Sample

Making a lot of money

Sample	Not Important	Somewhat Important	Very Important
Project Rural	28.5	54.0	17.4
Rural/Farming	12.3	65.3	22.4
Small Town	14.0	66.2	19.8
Suburban	13.8	62.7	23.5
Urban	15.7	63.6	20.7
Total NLS	14.0	64.4	21.6

Opportunities to be helpful to others or useful to society

Sample	Not Important	Somewhat Important	Very Important
Project Rural	12.4	54.9	32.6
Rural/Farming	6.6	43.0	50.4
Small Town	6.7	39.1	54.2
Suburban	6.7	38.6	54.7
Urban	6.9	39.9	53.2
Total NLS	6.7	40.4	53.2

Opportunities to be original and creative

Sample	Not Important	Somewhat Important	Very Important
Project Rural	24.9	51.9	23.2
Rural/Farming	14.0	51.8	34.2
Small Town	14.6	48.5	36.9
Suburban	13.2	46.2	40.6
Urban	12.1	44.9	43.1
Total NLS	13.5	47.7	38.8

Avoiding a high pressure job that takes too much out of you

Sample	Not Important	Somewhat Important	Very Important
Project Rural	30.6	47.4	22.0
Rural/Farming	21.2	48.6	30.2
Small Town	22.7	48.0	29.4
Suburban	22.4	47.1	30.5
Urban	21.6	46.4	32.0
Total NLS	22.0	47.5	30.5

Opportunities to work with people rather than things

Sample	Not Important	Somewhat Important	Very Important
Project Rural	23.3	42.7	34.1
Rural/Farming	16.7	40.3	43.0
Small Town	14.1	34.9	50.9
Suburban	13.7	35.7	50.6
Urban	14.3	34.4	51.3
Total NLS	14.6	36.2	49.2

Opportunities for moderate but steady progress rather than the chance of extreme success or failure

Sample	Not Important	Somewhat Important	Very Important
Project Rural	19.7	60.3	20.1
Rural/Farming	12.6	53.1	34.3
Small Town	13.2	52.3	34.5
Suburban	13.4	52.5	34.1
Urban	16.1	51.6	32.3
Total NLS	13.8	52.4	33.8

The chance to be a leader

Sample	Not Important	Somewhat Important	Very Important
Project Rural	48.3	40.1	11.6
Rural/Farming	42.7	43.1	14.2
Small Town	43.4	41.8	14.8
Suburban	43.2	40.0	16.8
Urban	44.0	39.6	16.4
Total NLS	43.3	41.1	15.6

TABLE A-4
Life Values Percentages by Sample

Being successful in my line of work

Sample	Not Important	Somewhat Important	Very Important
Project Rural	1.7	36.8	61.5
Rural/Farming	1.3	12.0	86.8
Small Town	1.0	14.4	84.6
Suburban	1.3	13.6	85.0
Urban	1.2	16.4	82.4
Total NLS	1.2	14.2	84.6

Finding the right person to marry and having a happy family life

Sample	Not Important	Somewhat Important	Very Important
Project Rural	12.0	21.0	67.0
Rural/Farming	3.5	12.2	84.3
Small Town	4.6	13.4	81.9
Suburban	4.9	13.0	82.1
Urban	5.6	13.9	80.5
Total NLS	1.4	3.4	19.9

Having strong friendships

Sample	Not Important	Somewhat Important	Very Important
Project Rural	3.0	37.9	59.1
Rural/Farming	1.8	19.6	78.7
Small Town	1.8	18.2	80.0
Suburban	2.4	20.0	77.5
Urban	1.8	16.6	81.6
Total NLS	2.0	18.6	79.5

Working to correct social and economic inequalities

Sample	Not Important	Somewhat Important	Very Important
Project Rural	40.9	49.6	9.6
Rural/Farming	20.8	54.2	25.0
Small Town	21.4	51.5	27.1
Suburban	19.8	51.1	29.2
Urban	22.1	52.5	25.4
Total NLS	21.0	52.0	26.8

Being able to find steady work

Sample	Not Important	Somewhat Important	Very Important
Project Rural	6.1	40.9	53.0
Rural/Farming	2.2	17.1	80.7
Small Town	2.8	18.6	78.6
Suburban	2.5	18.5	79.0
Urban	3.5	23.2	73.3
Total NLS	2.8	19.4	77.0

Being a leader in my community

Sample	Not Important	Somewhat Important	Very Important
Project Rural	54.9	37.3	7.7
Rural/Farming	39.9	47.5	12.6
Small Town	44.7	43.7	11.7
Suburban	45.2	43.3	11.5
Urban	51.9	38.0	10.1
Total NLS	45.5	43.0	11.4

Living close to parents and relatives **

Sample	Not Important	Somewhat Important	Very Important
Project Rural	70.0	24.5	5.6
Rural/Farming	49.3	42.2	8.4
Small Town	51.4	41.9	6.7
Suburban	47.7	43.6	8.7
Urban	52.8	40.0	7.2
Total NLS	50.3	41.9	7.7

Getting away from this area of the country

Sample	Not Important	Somewhat Important	Very Important
Project Rural	67.4	20.2	12.4
Rural/Farming	58.1	28.9	13.0
Small Town	54.9	29.9	15.2
Suburban	58.0	27.8	14.2
Urban	59.9	26.1	13.9
Total NLS	57.6	28.2	14.1